

**ENGINE TUNING** is  
so simple with the

# **HI-TORQUE RAM PIPE**



THE  
EASIEST  
CONVERSION  
EVER

SIMPLE BOLT ON FITTING IN A FEW MINUTES

BETTER ACCELERATION



HIGHER TOP SPEED

SMOOTH LOW SPEED POWER



NEGLIGIBLE MAINTENANCE

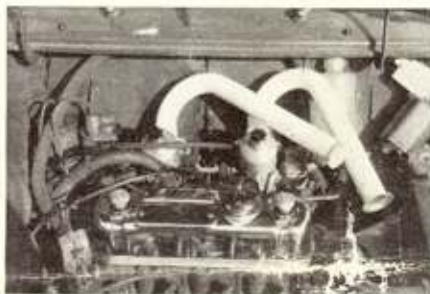


**Bob Soper Ltd**

*Gives you Power  
where you need it most*



MINI



COOPER 'S'



M.G.B.

## RAM INDUCTION — THE NEW CONCEPT IN ENGINE TUNING

The general principle of tuning by means of ram induction systems has been known for many years and has been dealt with at great length in the Technical publications. It is used on all Grand Prix cars and is accepted as the most efficient method of designing the inlet tract into the carburettor. Whilst the majority of designers are aware of the improvements obtained at high revs on cars using one carburettor per cylinder, it was not thought that the effect would be sufficient on production engines using siamesed ports and single or twin carburettors.

The 'HI-TORQUE' ram pipe was designed to give maximum improvement at very low revs usually just above 3,000 r.p.m. in order to have maximum effect at the speed the car is normally driven in top gear rather than at a speed which is rarely attained on most journeys.

Many months of development were spent in obtaining the necessary graphs for pipe length against engine revs for each type of carburettor set up and then designing a carburettor jet and needle combination to suit the characteristics of the pipe. For any given length of pipe there are points in the rev range at which there will be a resonance through the pipe and these are the points of maximum ram. These occur in various parts of the rev range and the pipe can be designed to take the greatest advantage of them. For instance on the 850 Mini and Morris 1100, if the ram pipe is designed to resonate first at 3,300 r.p.m. then a secondary resonance will occur at 4,990 r.p.m. In top gear this represents 49 m.p.h. and 74 m.p.h. The first speed being approximately the speed of average traffic conditions and the second giving an additional boost of power for Motorways and Freeways, where at present it is lacking. Similarly on the Cooper 'S' the tuning is done for 3,800 r.p.m. and 5,200 r.p.m. — 59 and 80 m.p.h. — respectively and that this is effective is shown by the considerable drop in acceleration times between 40 & 60 m.p.h. on the Mini and 50 and 70 m.p.h. on the Cooper. The bell mouth is designed to give the highest efficiency and least noise and the whole unit fits under the bonnet without any modifications to the body work.

The general effect on the engine is immediately one of increased smoothness particularly for Town driving in top gear. The car will pull away from just above 20 m.p.h. in top with no snatch or roughness that would be accompanied by the use of high compression heads or high lift cams. On the open road the effect is far more noticeable, particularly when driving at the speeds where maximum ram occurs. Hills are climbed with less effort and overtaking is made far safer.

This kit has been designed to give the best value for money in terms of performance increase per pound spent and so proved by the many satisfied buyers throughout the World.



1. Your HI TORQUE Ram Pipe comes in an attractive box with everything that you need to fit it in a few minutes. Full fitting instructions are provided.

Remove the air filter taking care not to lose the gaskets on the flanges. This should be carefully put away in the garage so that it can be refitted when the car is sold as standard.



3. Remove the carburettor suction chamber and take out the standard needle and springs. At this stage drain off the oil in the piston dashpot and very carefully clean the carburettor piston and suction chamber. Fit new needles and springs.

Fit HI TORQUE Ram Pipes making sure that the piston is quite free to rise and fall without any resistance, and that the air bleed holes are fitted uppermost.



5. Adjust the mixture and slow running until a very smooth slow tick over is produced. Full detailed instructions of this operation are provided.

**6. DRIVE AWAY AND FEEL THE NEW POWER YOUR ENGINE IS NOW DEVELOPING.**

## PERFORMANCE DETAILS

	Std.	Hi Torque
<b>B.M.C. Mini 850</b>		
0 — 60 mph	28.0 secs	23.3 secs
20 — 40 mph third	9.5 secs	7.9 secs
30 — 60 mph top	23.1 secs	21.0 secs

<b>B.M.C. 1100 single carb</b>		
0 — 50 mph	15.2 secs	14.9 secs
0 — 60 mph	22.7 secs	20.2 secs
40 — 60 ph top	16.8 secs	12.9 secs

<b>B.M.C. 1100 twin carb</b>		
0 — 50 mph	14.7 secs	12.1 secs
0 — 60 mph	20.2 secs	16.9 secs
40 — 60 mph top	15.4 secs	11.2 secs

<b>Mini Cooper 997/998 cc</b>		
0 — 50 mph	11.4 secs	9.6 secs
0 — 60 mph	15.5 secs	14.7 secs
40 — 60 mph top	10.5 secs	9.8 secs

<b>Mini Cooper S 1071 cc</b>		
0 — 50 mph	8.1 secs	7.7 secs
0 — 60 mph	12.4 secs	11.5 secs
50 — 70 mph top	12.5 secs	9.9 secs
60 — 80 mph top	14.9 secs	12.6 secs

<b>Mini Cooper S 1275 cc</b>		
0 — 50 mph	7.7 secs	7.1 secs
0 — 60 mph	11.1 secs	10.7 secs
50 — 70 mph top	8.5 secs	8.2 secs
60 — 80 mph top	11.8 secs	10.2 secs

	Std.	Hi Torque
<b>M.G.B.</b>		
0 — 60 mph	13.0 secs	12.2 secs
0 — 70 mph	17.8 secs	15.7 secs
40 — 60 mph top	8.3 secs	7.3 secs
60 — 80 mph top	10.2 secs	9.3 secs

<b>Ford Anglia 105E</b>		
0 — 50 mph	14.3 secs	13.6 secs
0 — 60 mph	24.0 secs	22.1 secs
40 — 60 mph top	15.8 secs	13.2 secs

<b>Morris 1000 1098 cc</b>		
0 — 50 mph	14.3 secs	13.9 secs
0 — 70 mph	36.6 secs	33.0 secs
40 — 60 mph top	16.0 secs	14.0 secs
50 — 70 mph top	20.8 secs	18.5 secs

### Suggested retail prices

B.M.C. Mini 850	£4
B.M.C. 1100 Austin. Morris	£4
Morris 1000	£4
Ford Anglia 105E	£4
1100 M.G. Riley, Wolseley, Vanden Plas	£8
Mini Cooper	£8
Mini Cooper 'S' 1071 cc 1275 cc	£8
M.G.B.	£9

*All plus 5/- postage and packing*

*What the press thinks*

#### 'Sporting Motorist'

'Acceleration was definitely improved.....much smoother at lower reys.....a worthwhile Mini mod!'

#### Car Mechanics

'We knocked 2 secs off a staff Mini Cooper 0 — 60.....cold starting is easier and top gear acceleration improved'

**MOTOR** "... a 3 second improvement to 60 m.p.h. for a £4 outlay is proportionately better than most conversions can manage."

Patent Pending  
Sole Manufactures:

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